

Application#	Patent#	Status	Date Filed	Title	Inventor Name
09363489	6248699	150	07/29/1999	Gelling System For Hydrocarbon Fluids	Subramanian, Shankar
10070282	Not Issued	71	04/15/2002	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Subramanian, Shankar
11701353	Not Issued	30	02/01/2007	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Subramanian, Shankar
08159199	Not Issued	166	11/30/1993	Problem Resolution System	Subramanian, Shankar K.
08612605	Not Issued	161	03/08/1996	Problem Resolution System	Subramanian, Shankar K.
10070282	Not Issued	71	04/15/2002	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Burgazli, Cenk
11701353	Not Issued	30	02/01/2007	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Burgazli, Cenk
10082295	Not Issued	161	02/26/2002	Amine And Quaternary Ammonium Salt Derivatives Of Glycidyl Ethers And Glycidyl Esters	Burgazli, Cenk R.
60281899	Not Issued	159	04/05/2001	Amine And Quaternary Ammonium Salt Derivatives Of Glycidyl Ethers And Glycidyl Esters	Burgazli, Cenk R.
60476426	Not Issued	159	06/06/2003	Gas Hydrate Inhibitors	Burgazli, Cenk R.
09342447	Not Issued	161	06/29/1999	Alpha-Olefin Sulfonic Acid Derivatives And Compositions Containing Them	Burgazli, Cenk R.
09342449	Not Issued	161	06/29/1999	Oxidized Alpha-Olefin Sulfonic Acids And Derivatives Thereof And Compositions Containing Them	Burgazli, Cenk R.
10070282	Not Issued	71	04/15/2002	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Zhu, Yung-Peng
08171796	Not Issued	161	12/22/1993	Surfactant Compositions Characterized By Improved Foam Height	Zhu, Shawn
08321489	Not Issued	161	10/12/1994	Synergistic Surfactant Compositions	Zhu, Shawn
08672016	Not Issued	161	05/25/1998	Synergistic Surfactant Compositions	Zhu, Shawn
08862897	Not Issued	161	05/23/1997	Surfactant Compositions Characterized By Improved Foam Height	Zhu, Shawn
09072818	Not Issued	161	05/05/1998	Dialkylquat And Trialkylquat Benzoate And Salicylate Salts	Zhu, Shawn
09138880	Not Issued	161	08/24/1998	Cold Processable Pearlescent Concentrates	Zhu, Shawn
09652146	6451731	150	08/31/2000	Stable Concentrated Pesticidal Suspension	Zhu, Shawn
10070282	Not Issued	71	04/15/2002	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Zhu, Shawn
10082295	Not Issued	161	02/26/2002	Amine And Quaternary Ammonium Salt Derivatives Of Glycidyl Ethers And Glycidyl Esters	Zhu, Shawn
11575800	Not Issued	19	01/01/0001	Alkoxyated Alkylamine Quaternary Surfactants For Glyphosate	Zhu, Shawn
11575847	Not Issued	19	01/01/0001	Alkoxyated Alkylamines/Alkyl Ether Amines With Peaked Distribution	Zhu, Shawn
11701353	Not Issued	30	02/01/2007	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Zhu, Shawn
60221297	Not Issued	159	07/27/2000	Stable Concentrated Pesticidal Suspension	Zhu, Shawn
60266299	Not Issued	159	09/10/1999	Stable Concentrated Pesticidal Suspension	Zhu, Shawn
60281899	Not Issued	159	04/05/2001	Amine And Quaternary Ammonium Salt Derivatives Of Glycidyl Ethers And Glycidyl Esters	Zhu, Shawn
60612597	Not Issued	159	09/23/2004	Ethoxyated Alkylamines Having Improved Compatibility With Glyphosate And Process For Preparing Same	Zhu, Shawn
60612598	Not Issued	159	09/23/2004	Alkoxyated Alkylamine Quaternary Surfactants For Glyphosate	Zhu, Shawn
60743715	Not Issued	159	03/23/2006	Alkoxyated Alkylamines / Alkyl Ether Amines With Peaked Distribution	Zhu, Shawn
60873158	Not Issued	20	12/06/2006	Compatibility Agents For Herbicidal Formulations Comprising 2,4-(Dichlorophenoxy) Acetic Acid Salts	Zhu, Shawn
60934540	Not Issued	20	06/14/2007	Alkylamidopropyl Dialkylamine Surfactants As Adjuvants	Zhu, Shawn
09595996	6828281	150	06/16/2000	Surfactant Blends For Aqueous Solutions Useful For Improving Oil Recovery	Feuerbacher, Dave
10070282	Not Issued	71	04/15/2002	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Feuerbacher, Dave
10985745	Not Issued	41	11/10/2004	Surfactant Blends For Aqueous Solutions Useful For Improving Oil Recovery	Feuerbacher, Dave
11701353	Not Issued	30	02/01/2007	Quaternary Ammonium Salts As Thickening Agents For Aqueous Systems	Feuerbacher, Dave

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1628	507/240,244,922.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 08:18
S2	367	166/308.2.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 08:18
S3	1866	S1 S2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 08:22
S4	6	("4168302" "4725372" "4898725" "5019281" "5551516" "5866040").pn.	USPAT	OR	ON	2007/08/13 08:21
S5	3	("6248699" "6828281" "20020147127").pn.	US-PGPUB; USPAT	OR	ON	2007/08/13 09:50
S6	178785	((cationic or viscoelastic or visco\$1elastic or (visco adj elastic)) with (surfactant or (surface adj active))) or (quaternary adj ammonium)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 13:31
S7	506	alkylaminealkylene alkyl\$1aminealkylene alkylamine\$1alkylene alkyl\$1amine\$1alkylene (alkyl adj aminealkylene) (alkylamine adj alkylene) (alkyl adj amine\$1alkylene) (alkyl\$1amine adj alkylene) (alkyl adj amine adj alkylene) alkylamidoalkylene alkyl\$1amidoalkylene alkylamido\$1alkylene alkyl\$1amido\$1alkylene (alkyl adj amidoalkylene) (alkylamido adj alkylene) (alkyl adj amido\$1alkylene) (alkyl\$1amido adj alkylene) (alkyl adj amido adj alkylene)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 13:33

## EAST Search History

S8	152102	trialkyl or trimethyl	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 13:36
S9	799585	ammonium	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 13:37
S10	11880406	salt or halide or fluoride or "F" or chloride or "Cl" or bromide or "Br" or iodide or "I" (oxo near20 (phosphorus or "P" or sulfur or sulphur or "S")) or (organic adj anion)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 13:40

## EAST Search History

S11	8	isostearylamidopropylmorpholine isostearyl\$1amidopropylmorpholine isostearylamido\$1propylmorpholine isostearylamidopropyl\$1morpholine isostearyl\$1amido\$1propylmorpholine isostearyl\$1amidopropyl\$1morpholine isostearylamido\$1propyl\$1morpholine isostearyl\$1amido\$1propyl\$1morpholi ne (isostearyl adj amidopropylmorpholine) (isostearylamido adj propylmorpholine) (isostearylamidopropyl adj morpholine) (isostearyl adj amido\$1propylmorpholine) (isostearyl adj amidopropyl\$1morpholine) (isostearyl adj amido\$1propyl\$1morpholine) (isostearyl\$1amido adj propylmorpholine) (isostearylamido adj propyl\$1morpholine) (isostearyl\$1amido adj propyl\$1morpholine) (isostearyl\$1amidopropyl adj morpholine) (isostearylamido\$1propyl adj morpholine) (isostearyl\$1amido\$1propyl adj morpholine) (isostearyl adj amido adj propylmorpholine) (isostearyl adj amido adj propyl\$1morpholine) (isostearyl adj amidopropyl adj morpholine) (isostearyl adj amido\$1propyl adj morpholine) (isostearylamido adj propyl adj morpholine) (isostearyl\$1amido adj propyl adj morpholine) (isostearyl adj amido adj propyl adj morpholine)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 13:45
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## EAST Search History

S12	2	(erucylamidopropyltrimethyl erucyl\$1amidopropyltrimethyl erucylamido\$1propyltrimethyl erucylamidopropyl\$1trimethyl erucyl\$1amido\$1propyltrimethyl erucyl\$1amidopropyl\$1trimethyl erucylamido\$1propyl\$1trimethyl erucyl\$1amido\$1propyl\$1trimethyl (erucyl adj amidopropyltrimethyl) (erucylamido adj propyltrimethyl) (erucylamidopropyl adj trimethyl) (erucyl adj amido\$1propyltrimethyl) (erucyl adj amidopropyl\$1trimethyl) (erucyl adj amido\$1propyl\$1trimethyl) (erucyl\$1amido adj propyltrimethyl) (erucylamido adj propyl\$1trimethyl) (erucyl\$1amido adj propyl\$1trimethyl) (erucyl\$1amidopropyl adj trimethyl) (erucylamido\$1propyl adj trimethyl) (erucyl\$1amido\$1propyl adj trimethyl) (erucyl adj amido adj propyltrimethyl) (erucyl adj amido adj propyl\$1trimethyl) (erucyl adj amidopropyl adj trimethyl) (erucyl adj amido\$1propyl adj trimethyl) (erucylamido adj propyl adj trimethyl) (erucyl\$1amido adj propyl adj trimethyl) (erucyl adj amido adj propyl adj trimethyl)) adj ammonium adj S10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 13:46
S13	0	S6 and S7 and S8 and S9	FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/13 13:51
S14	6	S6 and S7 and S8 and S9	USOCR	OR	ON	2007/08/13 13:49
S15	0	S6 and (S7 with S8 with S9)	US-PGPUB; USPAT	OR	ON	2007/08/13 13:49
S16	1	S6 and (S7 same S8 same S9)	US-PGPUB; USPAT	OR	ON	2007/08/13 13:49
S17	22	S6 and S7 and S8 and S9	US-PGPUB; USPAT	OR	ON	2007/08/13 13:51